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A high-level monthly briefing on operations and activities at the U.S. Department of Energy's Idaho National Engineering and Environmental Laboratory – Home of Science and Engineering Solutions. Work at the lab supports the Department's business lines of environmental quality, energy resources, national security and science.

■ ENERGY RESOURCES – Nuclear Power Heritage Acknowledged

Scores of past and present laboratory employees this month marked the occasion of the 50th anniversary of President Dwight D. Eisenhower's landmark Atoms for Peace address to the United Nations. In his December 1953 address, the president established formal U.S. policy to apply the power of the atom to medicine, energy production and other productive uses. Idaho's national laboratory played a key role in carrying out the Atoms for Peace plan – producing usable electricity from nuclear power for the first time in the world at the historic EBR-I reactor, and then making Arco, Idaho, the first city in America to be powered with nuclear-generated electricity. Governor Dirk Kempthorne acknowledged Idaho's unique role in making the president's vision a reality with a formal proclamation issued Dec. 8, 2003.

■ ENVIRONMENTAL QUALITY – Excavation Begins at Pit 9

Excavation began Dec. 12 at the INEEL's Pit 9, with the removal of clean topsoil using the Glovebox Excavator Method. Retrieval of contaminated waste from Pit 9 is scheduled to begin in January 2004. The U.S. Department of Energy, the EPA and the state of Idaho will use information gathered during the retrieval to help evaluate final remediation alternatives for buried waste. Waste retrieved during the demonstration project will be characterized for safe, compliant and temporary onsite storage until disposal in an off-site repository is approved. Pit 9 is located in the Subsurface Disposal Area, a 97-acre site in the western section of the INEEL's Radioactive Waste Management Complex.

■ NATIONAL SECURITY – INEEL Team Designs New Law Enforcement Tool

National Security engineers have designed an innovative firearm that combines a breaching shotgun with a primary assault rifle – effectively addressing the need for improved speed and safety during forced entries made by law enforcement personnel. The division's federal agency client requested development of a design that would allow improved entry times in life-threatening situations and lower risks to its agents. More traditional entry methods require separate weapons. For example, an agent fires at a door to destroy the hinges or the lock and then either has to switch from the shotgun to an assault rifle or remove himself from the line of fire to allow others to proceed through the door. Developers of the Idaho Integrated Breaching Shotgun are applying for five patents and holding discussions with a gun manufacturer interested in producing and marketing their new firearm.

■ SCIENCE – Lab Scientists Make Mark in Biocartography

An INEEL web-based microbial database and map server related to Yellowstone National Park has been recognized by the American Society of Microbiology (ASM) as a pre-eminent example of "biocartography." Biocartography involves visual representations that tie microbial information to geographic locations. Using the INEEL's web-based map server, microbiologists can query the web-based database to identify and map features, such as hot springs, with specific characteristics online. The web-based database for Yellowstone's hot springs is the first of its kind for cataloging and mapping microorganisms. Refer to web site: http://gis.inel.gov.

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